Senate Fiscal Agency

State Notes

TOPICS OF LEGISLATIVE INTEREST

March/April 2002

WWW.MICHIGAN.GOV
by Jessica Runnels, Fiscal Analyst

The e-Michigan Office was established on May 1, 2000, in Executive Order 2000-6 with the primary responsibility of maintaining the State's website, www.michigan.gov. The purpose of the e-Michigan Office is to fulfill "an identified need for the state to focus on and become active in the development and implementation of electronic government". The website is organized into five different theme areas, has links to all State department and agency websites, and offers selected State services online.

The e-Michigan Office

The e-Michigan Office originally was authorized for operation for only two years and housed within the Executive Office. It provides all State departments and agencies with assistance for e-commerce activities. Executive Order 2002-2 continues the e-Michigan Office as a Type I Agency and transfers it to the new Department of Information Technology, which was created in Executive Order 2001-3. A five-person advisory council consisting of the Governor and four members appointed by the Governor advises the director of the e-Michigan Office on issues and trends in e-commerce and implementation of initiatives.

The jurisdiction of the e-Michigan Office goes beyond the central State website. The policies adopted by the Office also apply to all executive State departments and agencies. The departments create their own websites, but must adhere to the policies set by the e-Michigan Office, such as for advertising and Internet privacy. The e-Michigan Office controls the design and e-government activities on State department websites, and those departments determine the content and language used on the website. Legislative and judicial agencies are not bound by the e-Michigan Office. They may choose to follow the policies adopted by the e-Michigan office, but legislative and judicial agencies function independently of the executive agencies and each other.

In addition to three e-Michigan employees, three employees from the Department of Management and Budget (DMB), and 10 employees of contracted vendors, the e-Michigan Office borrows staff from other departments for special projects. The employee-borrowing process is designed to assist the Office in creating a website and policies that complement department websites. The originating departments pay the salary of their employees working on the special projects, while the e-Michigan Office pays the salaries of its own employees and those borrowed from the DMB.

The Website

The new website became active on July 10, 2001. It is arranged into theme areas rather than by department and agency. This arrangement was chosen in an effort to provide services in a consumer-friendly method. The e-Michigan Office believes that visitors to the website will find theme areas easier to navigate compared with a department-by-department organization. The five theme areas are Business Services, Education, Licensing, Family Health and Wellness, and Travel and Recreation.

The website was designed in cooperation with IBM Corp., in accordance with a $3.6 million contract signed in April 2001 for provision of the Internet portal and necessary technology services. Additional contracts have been signed for specific projects, including consulting services for the e-Michigan Program Management Office, development of an online direct billing system, business process re-engineering, and provision of external hosting services. Expenditures for contract services total approximately $14.2 million.

Appropriations and Expenditures

The first two appropriations to the e-Michigan Office were included in supplemental appropriation bills, emphasizing the original temporary nature of the office. Table 1 displays the appropriations by year and fund source. The e-Michigan Office has been appropriated a total of $25.2 million in (FY) 1999-2000 and FY 2000-01. The amount shown below for Fiscal Year (FY) 2002-03 was proposed by the Governor in House Bill 5646 and has not been enacted. No appropriation has been made or proposed for FY 2001-02. The appropriations for the e-Michigan Office were placed in a work project account from which they may be spent in fiscal years beyond the year of appropriation.

Table 1

Appropriations to the e-Michigan Office

Fiscal Year	GF/GP	Restricted	Federal	Total
FY 1999-2000	$21,200,000	$2,000,000	$0	$23,200,000
FY 2000-2001	0	1,900,000	100,000	2,000,000
FY 2002-2003*	9,300,000	0	0	9,300,000
Total	$30,500,000	$3,900,000	$100,000	$34,500,000

* As recommended by the Governor in HB 5646.

Source: e-Michigan Office

No specific restricted fund source is designated in the appropriation bills. The restricted funds may come from a variety of sources depending on the project. For example, the e-Michigan Office could receive Medicaid funds to implement an online prescreening eligibility system and online applications for the MIChild and Healthy Kids program. Specific Federal fund sources have not been identified.

The e-Michigan Office has identified the amount of funding each project within each theme area will receive. In addition to the five theme areas on the website, there is a sixth development area called Enterprise Wide that primarily handles the administration of technology. Table 2 displays the Office's anticipated expenditure schedule.

Table 2

e-Michigan Office Anticipated Expenditure Schedule

	FY 2000-01	FY 2001-02	Total
Enterprise Wide	$9,299,508	$12,134,745	$21,434,253
Business Services	92,580	587,750	680,330
Education	93,170	842,960	936,130
Licensing	61,230	652,870	714,100
Family Health and Wellness	61,230	939,000	1,000,230
Travel and Recreation	61,230	340,000	401,230
Total	$9,668,948	$15,497,325	$25,166,273

Source: e-Michigan Office

Actual expenditures started slowly as the Office established itself and planned an approach. As contracts have been signed and the website completed, expenditures have increased. Focus initially was concentrated on activities related to the Enterprise Wide area. The development of services in the five theme areas will account for the bulk of the remaining expenditures. As of April 2002, the e-Michigan Office had spent approximately $15.7 million of the FY 1999-2000 General Fund/General Purpose (GF/GP) appropriation and another $5.2 million GF/GP is encumbered. None of the restricted funds have been spent, nor has any of the appropriation from FY 2000-01 been spent.

Advertising Policy

Language included in the FY 2001-02 General Government appropriation bill (Public Act 83 of 2001) authorizes the e-Michigan Office to accept advertising for placement on the website, with the revenue benefitting operations of the Office. The central website is not the only one that may contain advertising. Since the jurisdiction of the e-Michigan Office includes all executive departments, these individual department websites also may receive advertising. Advertising revenue to the Office was limited to a total of $250,000 with any additional funds benefitting the General Fund. The language also allows the e-Michigan Office to accept gifts, donations, contributions, bequests, and grants of money for its operations, and allows the source to receive recognition on the website.

At this time, no advertising has been placed on a State website and no contract has been signed with a vendor to design or coordinate the placement of advertising on State websites. The e-Michigan Office stated that it will review each advertisement before accepting it to determine acceptability for an audience of any age. The Office also will make an effort to place advertisements on department websites with related topics.

Privacy Policy

The privacy policy adopted by the e-Michigan Office applies to all executive department websites. Cookies, or small bits of data stored by a website on a visitor's computer, may be long-term or temporary. Temporary or session-specific cookies are used unless a visitor chooses to personalize his or her view of the website. If this option is chosen, then long-term cookies are used in order to remember the visitor's preferences from session to session.

A subsection included in the FY 2001-02 General Government appropriation act requires the privacy policy adopted by the e-Michigan Office to inform visitors how to view and delete cookies from their computer. This information was included in the privacy policy when the e-Michigan website became operational in July 2001. The e-Michigan website also describes a linking policy, an accessibility policy, and a security policy for online transactions.

Conclusion

The e-Michigan Office will be transferred to the Department of Information Technology as soon as is practicable following the effective date of Executive Order 2002-2, April 23, 2002. The Office intends to divide the recommended appropriation for FY 2002-03 between maintaining existing projects and developing new initiatives.

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EPIC: PROGRAM RECAP AND CURRENT STATUS
by John S. Walker, Chief Analyst

After a long, and some would say arduous journey, the Elder Prescription Insurance Coverage (EPIC) program opened its doors for business on October 1, 2001. The EPIC program was based on a concept first proposed in the spring of 1999 by Senator Harry Gast, Chair of the Senate Appropriations Committee, with the assistance of Senator John J. H. Schwarz, M.D., Vice Chair of that Committee.

During the period that the Senators were formalizing the EPIC concept, many senior citizens (meaning persons age 65 and older, for this purpose) had only limited or no outpatient prescription coverage. This was especially true for low-income seniors. Medicare, the primary source of medical coverage for seniors, has an exceedingly limited outpatient prescription component. While seniors can purchase a “Medigap” policy that includes prescription coverage, such coverage has high deductibles and copayments as well as low annual expenditure caps. Perhaps more significant is that, these policies are relatively expensive, costing between $700 and $1,200 more annually than the same policy without prescription coverage.

In Michigan, besides Medicare and Medigap, seniors’ prescription assistance was limited to a couple of State-funded or locally based programs. For very low-income seniors with limited assets, Medicaid also was available, though many of these individuals were in long-term care facilities where outpatient prescription coverage was not an issue.

The existing State-funded programs, the senior prescription tax credit and the Michigan Emergency Pharmaceutical Program for Seniors (MEPPS), did provide some relief for prescription costs of eligible seniors. However, the eligibility criteria and assistance delivery process were less than optimal. The latter program, MEPPS, was, as stated, an “emergency” program. The basic criteria limited potential coverage to individuals or couples with incomes at or below 150% of poverty with no other prescription coverage. In addition, the precipitating event for filling or refilling one or more prescriptions was a cost in excess of 10% or 8% (for individuals or couples, respectively) of that month’s income. The eligible person would be given a voucher that would cover the cost of the prescription(s) at a retail pharmacy. The major problem with this program was that, due to budget constraints, it limited access to only three episodes per year except under the most dire of circumstances.

The senior prescription tax credit program did offer assistance to a larger cohort of the elderly, but still had its own shortcomings. Ostensibly open to all seniors at or below 150% of poverty, these persons would have to spend at least 5% of their income (regardless of income level) on prescriptions during a tax year just to meet the basic program criteria. If a senior spent more than 5% of his or her income, then the person would be eligible for the tax credit, but only for the next $600 of prescription expenses. Any spending over that amount came out of the senior’s pocket. One additional shortcoming of the tax credit program was that after filing for the credit, a senior would not actually receive reimbursement until the August following the close of the tax year during which he or she had made the expenditures. All in all, these programs did provide some assistance for 30,000 to 40,000 claimants/recipients at an annual cost of between $20 million and $26 million.

It was within this context (and a decision to use $30 million or so of the new tobacco settlement dollars for this purpose) that EPIC was born. As mentioned above, it took some time and doing before the EPIC statute was signed into law as Public Act 499 of 2000, with an effective date of October 1, 2001. However, the final EPIC program is not considerably different from what was proposed by Senators Gast and Schwarz. It was originally intended that all elderly persons at or below 200% of poverty, without other prescription coverage (but excluding a Medigap policy with a prescription option), would be eligible for EPIC. Unlike either MEPPS or the tax credit program, cost-sharing (in the form of a yearly premium) would be done on a sliding scale that varied by income level. For example, for seniors at or below 100% of poverty (for tax year 2001: $8,590 for single persons and $11,610 for couples), the premium for a year would be $85.90 for a single person and $116.10 for a couple, or 1% of income. At 150% of income, the premium would be 3% of income, and the yearly premium would not reach 5% until an enrollee's income was over 175% of poverty. As noted previously, the senior prescription tax credit program excluded all elderly persons with incomes over 150% of poverty and, for those who qualified, the benefit did not begin until a senior had already spent 5% of his or her income on prescription medications - regardless of whether that income was 150% or 50% of poverty. The only other cost envisioned for EPIC was an annual $25 application fee.

As is the case with most legislation, the EPIC bill was modified to meet various concerns before it became law. As the original version of the Senate bill was making its way through the committee process, the House began to draft its own version of how a State-financed senior prescription program should work. The major point of difference revolved around the issue of "cost-sharing". The Senate version used a "premium" model. That is, the premiums that were paid by the enrollees would help to offset the program's costs. In addition, like almost any insurance model, some enrollees' expenses would be less than the premiums paid, while other enrollees' expenses would cost more than what they paid in premiums. In effect, low users would subsidize high users. The House wanted a cost-sharing model that better reflected the cost experience of each individual. House members felt this could best be accomplished through a "copayment" as opposed to a premium. As the maximum monthly copayment was based on one-twelfth of what the yearly cost of the premium would have been, the House's plan would have a fiscal effect similar to that of the Senate's approach, on an individual-by-individual basis. However, it would not have the same global effect because there was no subsidization of high users by low users. The House's copayment model replaced the Senate's premium model in the enacted EPIC statute.

The third party to those negotiations was the Engler Administration, which had expressed grave reservations about EPIC from the time that the administration had first heard about the proposed program. Its primary concern was that the cost estimates were too low. Other questions that the administration found problematic included: What safeguards could be implemented/developed to mitigate a possible overexpenditure? Would EPIC be seen as an "entitlement"? What would happen to EPIC if the Federal government enacted a similar program? As was the case with the House's concerns, the Senate's version of the bill was modified to address the issues raised by the administration (that is, short of not adopting EPIC at all). Some of the adjustments included establishing EPIC as the payer of last resort, specifying that EPIC is not an entitlement, limiting the benefits to the amount supported by the level of funds appropriated, and authorizing the administration to take corrective action such as requesting a transfer or supplemental or suspending further enrollments. All of these issues and others were accounted for in the final bill. Once EPIC was signed into law, the Department of Community Health (DCH) quickly submitted Requests For Proposals (RFPs) for the purpose of operating the EPIC program. In doing so, the DCH was able to begin sending applications to and then processing them from the first required coverage group, which consisted of those seniors who had used MEPPS at any time during the preceding 12 months.

By mid-August 2001, almost 13,000 applications had been mailed and a toll-free phone system to assist applicants was up and running. In addition, the DCH had been offering grants to 150 senior citizen centers and to all Area Agencies on Aging to assist in educating and filling out applications for those seniors who were eligible for EPIC from the first priority group. Starting in September 2001, seniors whose applications had been approved began receiving their EPIC membership cards. On October 1, 2001, the day after MEPPS officially came to an end, seniors began receiving their prescriptions from over 2,000 pharmacies enrolled in the EPIC program. On the same date, the emergency component of EPIC was implemented. This reflected the requirements of Section 4 of the EPIC Act, under which any senior who met the criteria of MEPPS could receive coverage under EPIC for up to 90 days.

During the same period, the DCH mailed over 33,000 EPIC applications to the second priority group, which consisted of individuals who had filed for the tax credit under the senior prescription tax credit program any time within the previous 12 months. As specified in the EPIC statute, enrollees from this group began receiving their prescriptions from participating pharmacies on December 1, 2001. At midnight on December 31, the senior prescription tax credit program was repealed. (However, the tax credit will continue to be payable for eligible seniors who had unreimbursed prescription expenses during tax year 2001.)

After six months of operation, it is still too early to make definitive statements about expenditure trends or to make qualitative assessments of the overall EPIC process, e.g., ease of application, simplicity of prescription purchases, and level of provider payments. This is partly because EPIC, by design, used a phased-in approach.

In addition, the Engler Administration is still concerned about the ultimate costs of the program and, therefore, has frozen enrollment at the first two priority groups. While the statute does allow the administration to freeze enrollment, the question is how long is it reasonable to continue that freeze once it is shown that expenditures will not exceed appropriations in the current year.

One additional factor, which no one anticipated, has had a definite impact on aggregate expenditures: the extraordinarily low enrollment rate. As of the end of March 2002, fewer than 15,000 people had enrolled in the EPIC program, even though slightly more than 46,000 applications were sent to potential eligibles. The Department has sent out a follow-up letter to the MEPPS-eligible priority group to try to ensure that this group was aware of the EPIC program. Likewise, senior citizen centers and Area Agencies on Aging were given grants to help fund the education and application process. Department meetings with these entities were held during July and August to provide training.

One possible explanation for the low enrollment is that despite the best efforts of the Department and senior advocates, the target population is still not fully aware of what the EPIC program is. This may pertain more to the tax credit group, as the data seem to indicate that, during last October and November, around 65% of the people eligible for MEPPS enrolled in EPIC. Since it appears that the individuals eligible for the tax credit have not enrolled, it could be that these seniors believe that they had one of two options: either use the tax credit program <u>or</u> enroll in EPIC. (This, of course, is not the case, as both EPIC and the tax credit program can be used for the 2001 tax year.) The data, however, do not support this hypothesis; even though the enrollment deadline was extended until early February 2002, there was no significant growth in enrollment during January 2002.

Another possibility relates to income eligibility. Because the senior prescription tax credit has a basic income eligibility criterion (at or below 150% of poverty), one would think that the number of credits claimed in a preceding year would be a good indicator of how many seniors potentially eligible for EPIC would come from that group. However, an estimate following this line of reasoning may be less than valid. First, an interesting trend can be found in the number of credits claimed over time. For tax year 1989, 26,300 credits were claimed. There was a gradual increase in claims through tax year 1994, when they topped out at 39,500. Since then, the number of credits claimed declined to 29,146 for tax year 2000. Therefore, it would not be surprising to find a lower estimate today than just a few years ago.

The other part of this income-related estimate is the possibility that individual perceptions of what was countable income under the tax credit program are different than what is countable under EPIC. This does not mean that senior citizens were "cheating" when filing the tax credit form; it simply could be that filling out the EPIC application requires more thought as to what constitutes income. Both of these forms are on a single page, but the similarity stops there. On the tax credit form, one is asked to attest that his or her income is "X". The EPIC form not only asks a similar question, but also provides a listing of 14 different categories of income <u>and</u> requires the filer to provide reasonable proof of each. Of the approximately 15,500 EPIC applications received so far, about 1.2% have been denied due to excess income, even though the applicants had filed a claim for the prescription drug credit in the preceding year. In addition, 16% of the EPIC applications have needed additional information to determine eligibility, with the most common issue being proof of income. (Also, it appears that participants in the tax credit program have never been audited.)

One of the most plausible, though hardest to explain, reasons for the observed low enrollment rate is the fundamental nature of the population at hand. In other words, a sizable portion of senior citizens are low income, have a significant need for prescription medications, have limited or expensive third party coverage, and, as a result, have high out-of-pocket costs relative to their income. This is the operating model supported by conventional wisdom, and the "estimating" is simply associating the right numbers with the right variables. The Senate Fiscal Agency (SFA) estimate targeted expected out-of-pocket prescription costs adjusted for age, marital status, income, and prescription utilization. The base values came from the Medicare Current Beneficiary Survey (MCBS) from 1994 and 1996 adjusted for inflation into the future. The outcome was as expected: Lower income equates to higher out-of pocket costs relative to income. However, SFA research also indicated that there may be a greater level of third party coverage than is usually thought. The Engler Administration's estimate has been consistently higher than that of others, but it is generated from comparable Medicaid data. The administration's basic dollar results were no different than the SFA's: low income, high relative costs. It should be noted that the administration's outcome was rather predictable because it chose to assume a relationship between the EPIC program target population and a "comparable" Medicaid population. The problem is, almost by definition, the Medicaid population is very low income <u>and</u> has high health care utilization. In a non-Medicaid population, the latter variable may not correlate; the relationship may be the inverse in that one has already accounted for the high health care utilization as these low-income folks are already on Medicaid.

One final perspective to this estimating dilemma revolves around a 1999 study undertaken by Gross, et al.[1] Using data from the 1993 MCBS, Gross, et al. found that out-of-pocket health care expenses result in a significant burden on senior citizens in general, and on poor elderly persons in particular. Their finding that the elderly, on average, spend 19% of their income on medical care (rising to 35% for poor seniors), is similar to a 1996 study that used a different data set, but the same estimating methodology. As a result of these studies, there have been recommendations that the government do more to increase the financial protection against high out-of-pocket health care expenses for the elderly. The problem with these studies, according to Dana Goldman[2] of RAND Health, is that the

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[1]Gross, D.J., L. Alecxih, M.J. Gibson, J. Corea, C. Caplan, and N. Brangan. 1999. "Out-of-Pocket Spending by Poor & Near-Poor Elderly Medicare Beneficiaries", Health Services Research, 34 (1,Part II); 241-54.

[2]Goldman, D.P. and Smith, J.P. "Methodological Biases in Estimating the Burden of Out-of-Pocket Expenses", Health Services Research, pp. 1357-1365, February 2001.

methodology used is wrong. In fact, it is so wrong, especially as applied to the poor elderly, that it "...distorts the real policy issues that exist in providing elderly Americans adequate protection against the possibility of significant medical expenses during their old age." The Senate Fiscal Agency believes that many of these types of studies do tend to assume the worst outcomes, which often results in exceedingly cautious behavior to the point that nothing meaningful gets accomplished.

If one were to describe the current status of EPIC in a single word, "stagnant" comes to mind. It is stagnant to legislators because all that was promised in the enabling legislation has not come to pass. It is stagnant to the administration and legislative analysts because EPIC's operating fiscal parameters are still unknown. Finally, it is stagnant for any number of elderly persons who are income-eligible but not currently enrolled in EPIC, and will not have the senior prescription tax credit program to fall back on. Nevertheless, the relatively few individuals who are enrolled in the EPIC program have an opportunity that neither MEPPS nor the tax credit program ever aimed to achieve.

In order to encourage more seniors to take advantage of that opportunity, the Legislature could consider various options, including the following:

- Instruct the DCH to undertake a survey of a statistically significant sample pulled from the universe of persons eligible for the former MEPPS and tax credit who received an EPIC application, but chose not to enroll in the EPIC program. The purpose of the survey would be to determine what factors resulted in their declining to enroll in EPIC.

- Require the DCH again to send out EPIC applications to all seniors eligible for the former MEPPS and tax credit who were on the original or adjusted mailing list and who have not as of yet applied for EPIC. The DCH also could establish a new two-month window during which applications would be accepted.

- If it still appears that enrollment in EPIC by the first two priority groups will remain low, the DCH could expand enrollment to all other elderly persons at or below 150% of poverty. The Department could randomly select a preset number of applications (say, 1,000 at a time) from this new pool and then wait for two or three months before selecting additional sets of applicants in order to assess the impact on expenditures the previous randomly selected enrollees have on program expenditures.

In closing, Gross expenditures for EPIC through the middle of April 2002 have been less than $10 million. As things currently stand, there is no possibility that the remaining $40 million will be spent by the end of this fiscal year. Given all the facts and circumstances surrounding EPIC, there seems to be little to lose by adjusting the application dam at this time. On the other hand, there is a potential for a significantly greater loss if the status quo is maintained and EPIC ultimately fails.

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SKIMMING THE SURFACE: GREAT LAKES WATER DIVERSION

by Nobuko Nagata, Legislative Analyst

Introduction

The Great Lakes basin covers approximately 95,000 square miles and contains five of the largest freshwater lakes in the world. The Great Lakes system and its bays and tributaries contain 20% of the world's supply of freshwater and 95% of North America's supply of surface freshwater. They provide a vast array of benefits including water for drinking, recreation, agricultural and industrial needs, energy production, economical and efficient transportation, and environmental balance.

According to the U.S.-Canada International Joint Commission (IJC), established by the Boundary Waters Treaty of 1909, all of the water in the Great Lakes basin is currently being used in some way. There is in effect no surplus resource, but rather competition among users. The National Wildlife Federation reports that within the next 25 years, the number of countries facing chronic water shortages will increase to 50. That, coupled with a constant rise in world population and the need for freshwater, poses a serious threat to the Great Lakes resource. Therefore, it is necessary to review existing and potential activities that have or could have a substantial impact on the supply and sharing of the Great Lakes water resource. Because of the subject's complexity, this article simply provides a brief overview for those unfamiliar with the issue. It explains the background of the issues concerning Great Lakes water diversion; discuses its potential impacts; and reviews current water management policies.

Background

The Michigan Department of Environmental Quality (DEQ) states that Great Lakes diversion is a man-made transfer of water into or out of the Great Lakes basin or between the basins of two Great Lakes. Consumptive water use is the withdrawal from the Great Lakes basin of water that is not returned to the original source because it is consumed by people, plants, or animals; incorporated into products (such as bottled water); or lost through evaporation or leakage.

There are currently five major diversions in the Great Lakes basin, which are used for commercial navigation, energy generation, and municipal water purposes. The Canadian Long Lac and Ogoki diversions transfer water into Lake Superior and are important for hydroelectric power generation. The Chicago diversion from Lake Michigan transfers water out of metropolitan Chicago through the Illinois waterway. The New York State Barge Canal and the Welland Canal are intrabasin diversions that transfer water from Lake Erie to Lake Ontario. Reportedly, excluding the New York State Barge Canal diversion, these major diversions and consumptive uses have produced some changes in Great Lakes levels and outflows.

Moreover, recent public concern has been focused on the potential movement of freshwater in bulk beyond the Great Lakes basin. In 1998, a Canadian company proposed a plan to export 158 million gallons of water from Lake Superior to Asia. The plan was rescinded after public objection. In February 2002, three northern Michigan Indian tribes sued to prevent groundwater diversion from the Great Lakes by a Perrier water bottling plant, which received DEQ permits in August 2001. The Mecosta County plant is expected to produce more than 260 million gallons of bottled water annually. According to an article in the *Detroit Free Press* (3-1-02), the tribes are concerned about the potential impacts on Great Lakes water levels.

Impacts

According to the Michigan Environmental Council, the annual rainfall, surface water runoff, and inflow from groundwater sources renew only 1% of the water in the Great Lakes. Most of the freshwater source is a result of glacial disposition. The water level of each of the Great Lakes depends virtually on the balance between the amount of water entering and the amount of water leaving the basin. Therefore, large-scale water diversion and consumptive use could have various impacts on the Great Lakes.

Essentially, the magnitude of the net effect on the water level of each Great Lake depends on the location and diversion in the system. Reportedly, the combined effect of the existing diversions has raised water levels in Lake Superior and Lake Ontario by less than one inch; dropped water levels in Lake Huron and Lake Michigan by more than two inches; and dropped levels in Lake Erie by five inches. These changes are small compared with the annual range of natural lake level fluctuations, but the combined effect of one or more large-scale diversions and increased consumption could have a significant potential impact on the water supply. According to an article on Great Lakes Diversion and Consumptive Water Use published by the Legislative Service Bureau's Science and Technology Division, diversions and consumptive uses could potentially have more dramatic local effects on smaller lakes and streams in the Great Lakes basin.

Since the water depth in navigational channels dictates the amount of cargo and loading capacity of a vessel, commercial navigation could experience large economic losses from a drop in lake levels caused by diversion. The capacity of several major hydroelectric power plants in the connecting channels of the Great Lakes is directly proportional to the volume of water available to flow through the system. Therefore, a drop in lake levels would have an effect on pumping costs. The diversion of Great Lakes water also could influence beach use, alter fish and wildlife resources, and affect coastal interests. There is also a possibility that an out-of-basin diversion could increase pollutant concentrations and provide a passage for the unintentional introduction and spread of aquatic nuisance species.

According to the IJC, however, there is insufficient information available to draw any cumulative or substantial basin-wide economic or environmental implications.

Water Management Policies

Presumably, most people would agree that diversions and large consumptive uses should not be allowed without thorough regulatory review, comprehensive analysis, adequate communication, and unanimous approval. The following is a brief description of several major Great Lakes water management policies that are currently in effect.

The Boundary Waters Treaty of 1909 is a binding agreement that prohibits the consumptive use, obstruction, and diversion of boundary waters (waters intersected by the international boundary between United States and Canada, which excludes tributaries and Lake Michigan) that affect the natural level or flow of boundary waters without the approval of the U.S.-Canada International Joint Commission created under the treaty.

The Great Lakes Charter of 1985 is a nonbinding agreement between the Great Lakes state governors and Canadian premiers to conserve the levels and flows of the Great Lakes and tributaries, to protect and conserve the Great Lakes basin's ecosystem resources, and to facilitate cooperation between the two countries. The Charter requires the approval of any diversion of water greater than 5 million gallons per day average in any 30-day period. A state or province, however, may approve plans over other jurisdictions' objections. The Annex 2001, an amendment to the Great Lakes Charter that was signed in June 2001, directs the states and provinces to develop a new binding agreement to manage the waters of the Great Lakes, develop a standard for new or increased water withdrawals, and make further commitments to continue to improve the Great Lakes water management system.

The Federal Water Resources Development Act of 1986 requires the approval of all Great Lakes states' governors on any proposed diversion of water from the Great Lakes system outside of the basin. The Act, however, does not address consumptive uses of Great Lakes water within the basin.

Part 327 (Great Lakes Preservation) of Michigan's Natural Resources and Environmental Protection Act (MCL 324.32701-324.32714) prohibits new diversions of water out of the Great Lakes basin from Michigan's portion of the Great Lakes. It establishes a State water use registration and reporting program, requires the Department of Environmental Quality to cooperate and exchange information with other states and provinces, and creates the Water Use Protection Fund. The Act, however, does not restrict consumptive uses of Great Lakes' waters.

Through a variety of permit and/or approval requirements, the other Great Lakes states also regulate diversions and consumptive uses of water in the Great Lakes basin.